Magazine Beach Pedestrian Bridge Replacement Project

May 20, 2010
Morse Elementary School
Cambridge, MA

Massachusetts Department of Transportation

- **The Massachusetts Department of Transportation, MassDOT, is the unified transportation organization serving the residents and visitors of Massachusetts with a focus on public safety, customer service and efficiency.**

- **MassDOT is governed by a five member board, managed by a Secretary/CEO, and includes four divisions: Highway, Rail & Transit, Registry of Motor Vehicles, and Aeronautics.**

- **MassDOT was created on November 1, 2009, the result of a historic transportation reform law signed into law by Governor Deval Patrick in June 2009.**

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Patrick-Murray Accelerated Bridge Program

- **Authorization:**
  - Chapter 233 of the Acts of 2008
  - Project must be complete by 2016

- **Program Goals:**
  - Improve the Condition of the Commonwealth's Bridges
  - Stimulate Economic Development and Job Creation
  - Save Money by Completing Projects Sooner
  - Complete Projects Efficiently and Innovatively
  - Provide Access and Opportunity for all
  - Manage with Transparency and Accountability

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Program Overview- 8 years only

- **Size and Scope**
  - Former MassHighway: $2.078 billion
    - rehabilitation or replacement of 189 bridges
    - preservation of 305 bridges
  - Former DCR: $906 million
    - rehabilitation or replacement of 29 bridges
    - preservation of 50 bridges

MassDOT Total Program: $2,984,000,000

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Magazine Beach Pedestrian Bridge

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Magazine Beach Pedestrian Bridge

- **DCR-owned bridge**
- **Constructed in 1953**
- **Single (82’ long) span steel girder, crossing Memorial Drive**
- **Access to bridge via 8’- wide ramps sloped at 8.2%**
- **Bridge has been severely damaged due to an impact from a large vehicle**
- **Bridge does not conform to ADA standards**

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Existing Conditions

- **Major damaged elements due to vehicle hit damage**
- **Deformed girder that supports the main span over Memorial Drive**
- **Cracked bearing seat that supports one of the ramps**

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Existing Conditions

- **Temporary supports**
- **Bridge rail does not meet latest code requirements**

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Scope of Work

- **Designed for a 75-year service life**
- **New superstructure with concrete deck and steel beams**
- **Steel coated with high quality ‘metalizing’**
- **Substructure replaced**
- **ADA improvements**
  - Ramp width expanded from 8’ to 10’
  - Ramp slope improved from 8.2% to 5%
- **Safer, code-compliant handrails to be installed**
- **Bridge low-height warnings: east and west of bridge**

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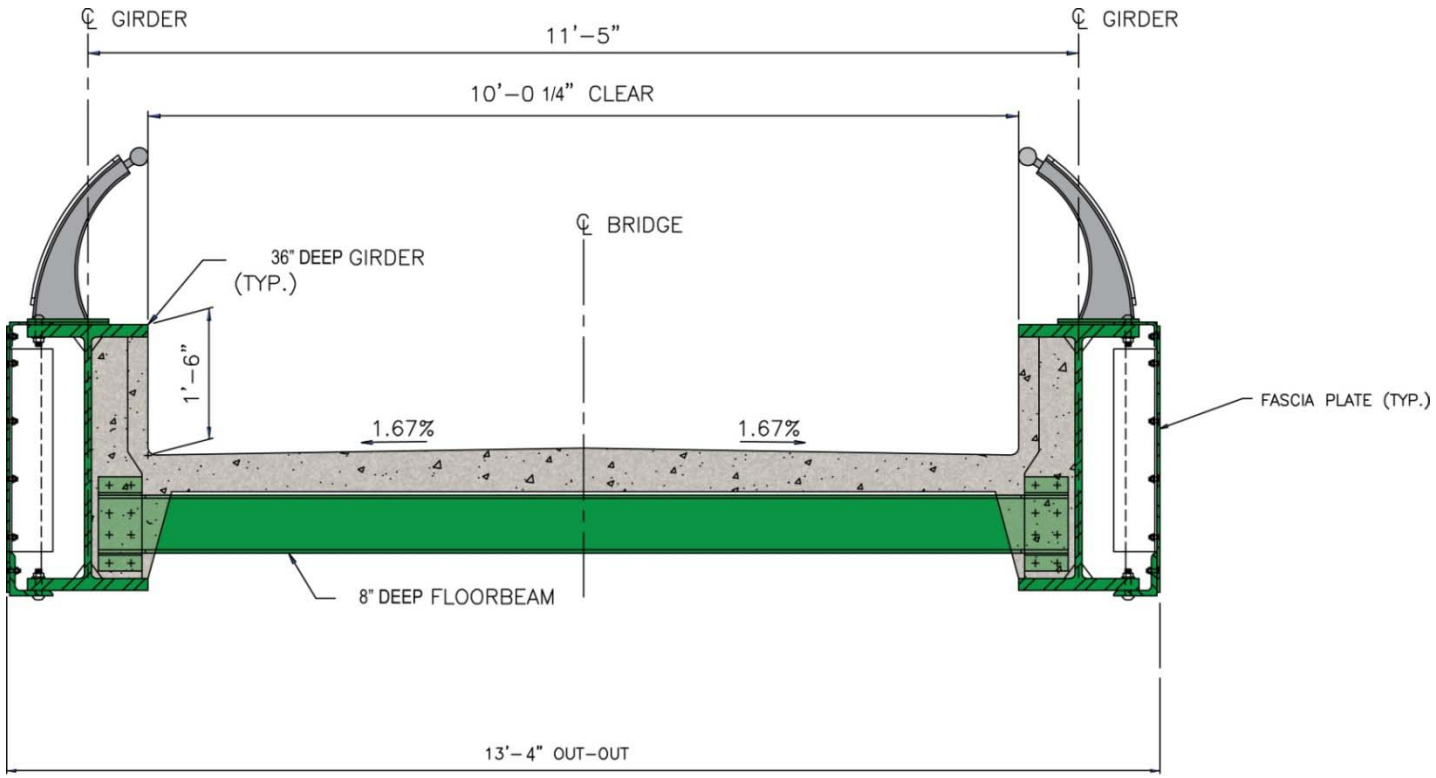
Magazine Beach Pedestrian Bridge Replacement
Proposed Cross Section

- **10’-0” wide ramp**
- **5% slope ramp walkway**
- **42” high railing**



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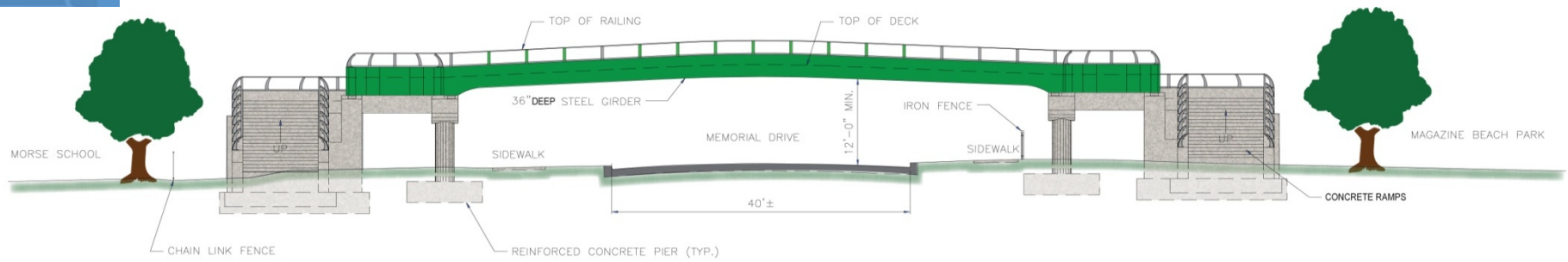
Magazine Street Pedestrian Bridge Replacement
Bridge Elevation



WEST ELEVATION

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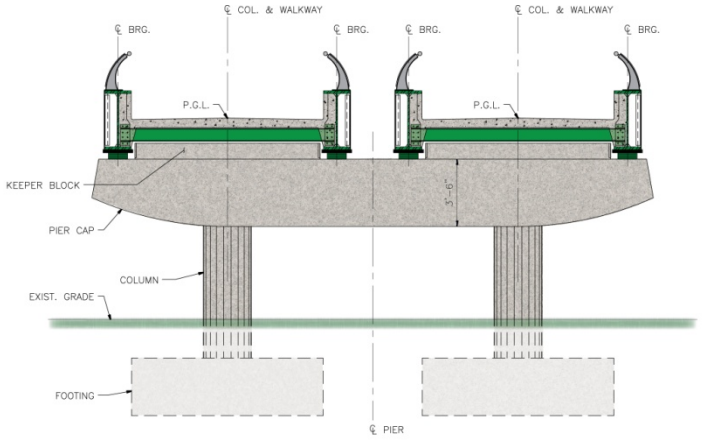
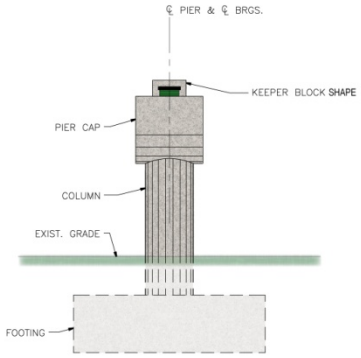
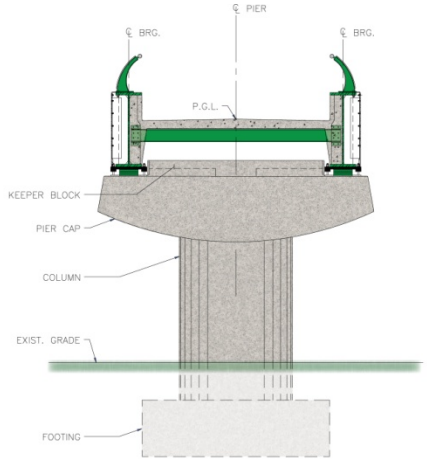
Magazine Street Pedestrian Bridge Replacement
Pier Elevation



SIDE ELEVATION
SCALE: 3/8"=1'-0"



END ELEVATION
SCALE: 3/8"=1'-0"



SIDE ELEVATION
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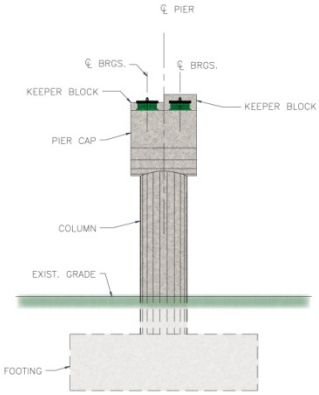

END ELEVATION
SCALE: 3/8"=1'-0"

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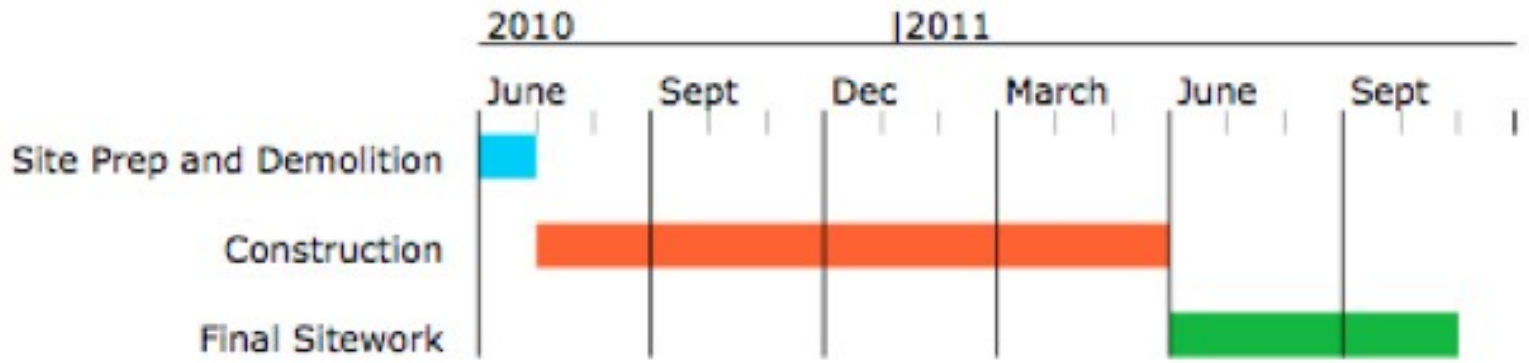
Anticipated Schedule



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Sequence of Work

- Installation of temporary asphalt walk surface & traffic signal
- Demolition of bridge
- Excavation of existing & proposed footing
- Placing concrete at new foundations
- Erecting structural steel
- Placing concrete deck
- Installing bridge railings
- Site restoration & landscaping

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Special Considerations During Construction

- Pedestrian/bicycle/handicap passage and safety
- Vehicle traffic management during road closures
- Landscaping alterations and improvements
- Construction noise mitigation
- Public Outreach

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Pedestrian/Bicycle/Handicap Passage and Safety During Construction

- Maintain existing pedestrian walkways
- Maintain existing crosswalk and handicap ramp at Magazine Street
- Provide for temporary ground level crosswalk and handicap ramp across Memorial Drive
- Temporary traffic signalization
- Crossing guards at temporary crosswalk during peak use hours
- Increased construction warning signage approaching bridge

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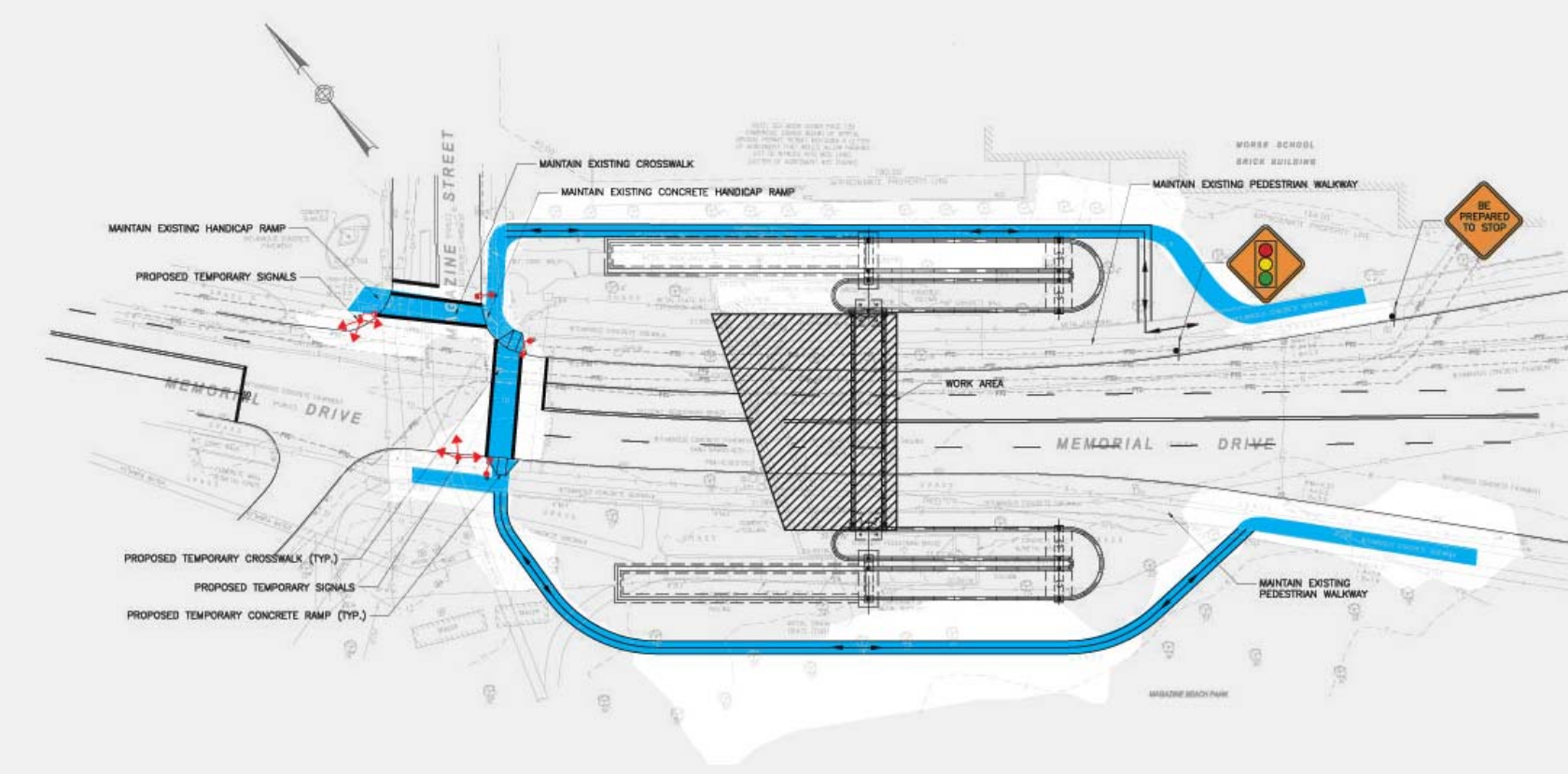
Pedestrian/Bicycle/Handicap Passage and Safety During Main Span Construction



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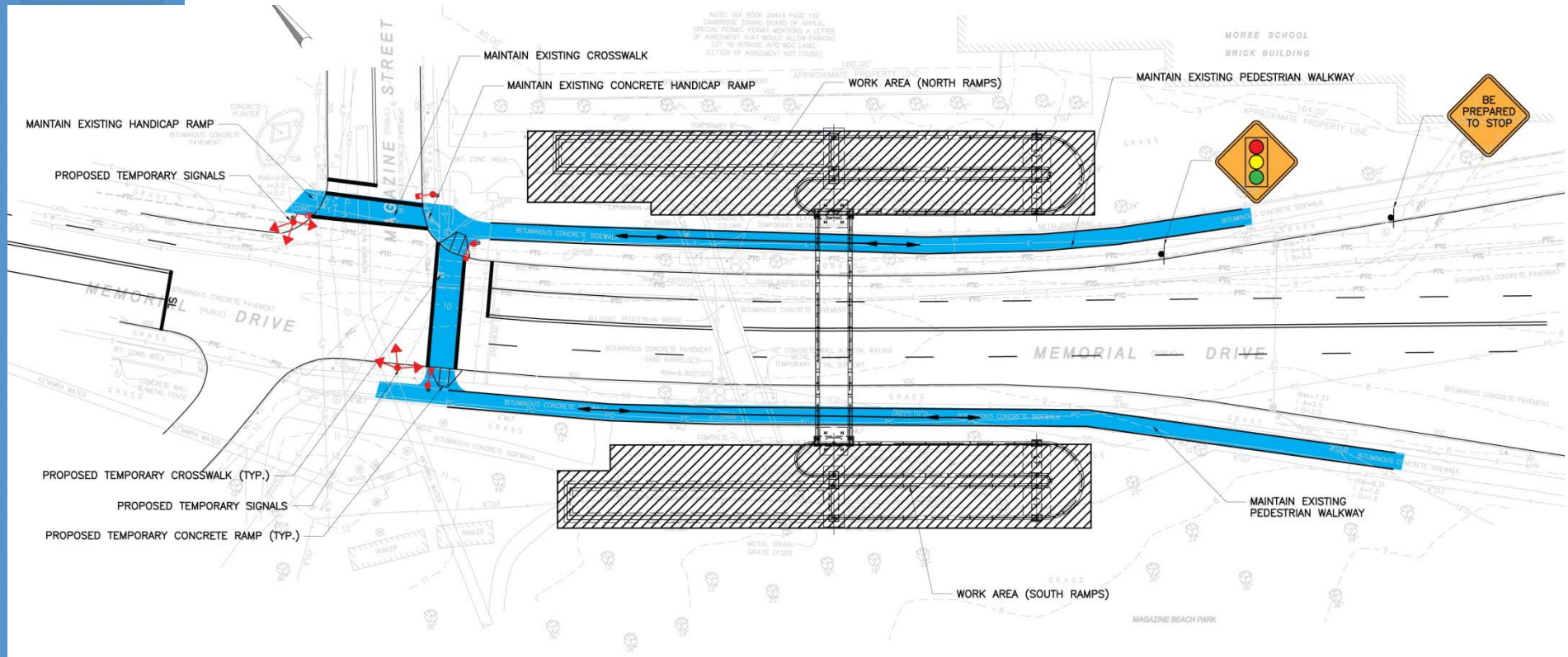
Pedestrian/Bicycle/Handicap Passage and Safety During Ramp Construction



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Detour Route

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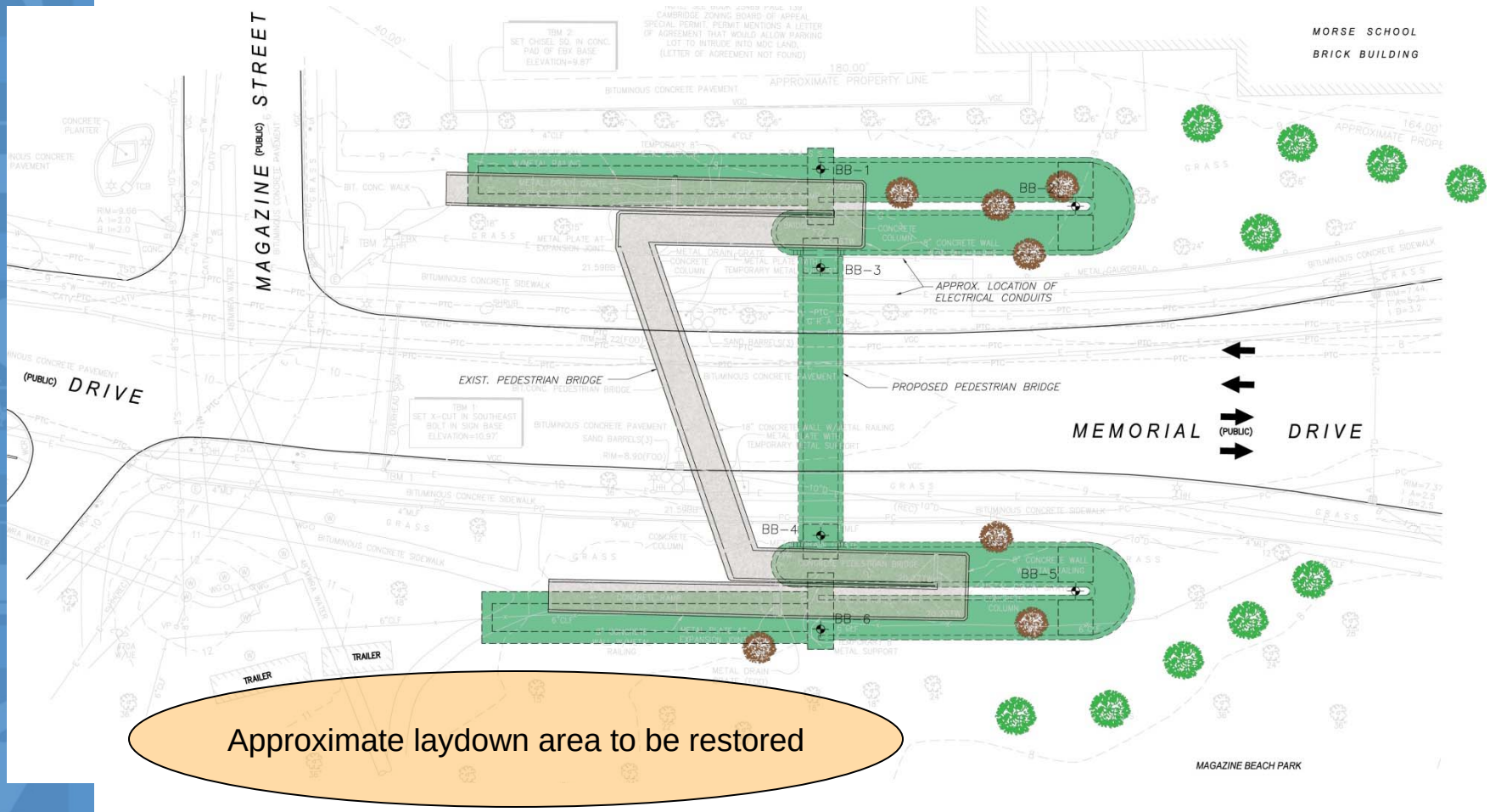
Landscaping Alterations and Improvements

Existing trees to be removed

Proposed new trees



Approximate laydown area to be restored

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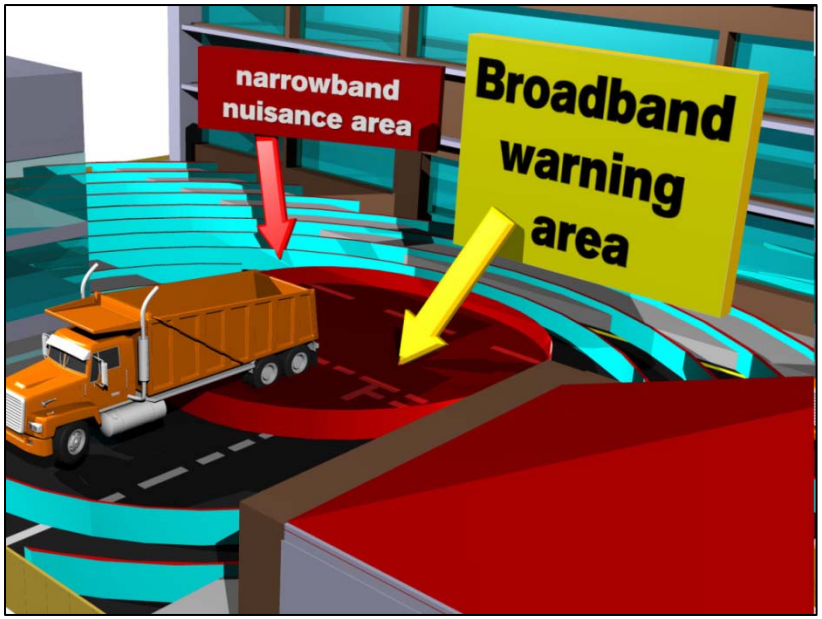
Noise Abatement

- Standard specification developed to minimize construction noise.

- Successfully implemented on recent projects
- Requires use of equipment with efficient noise-suppression devices
- Restricts idling
- All construction vehicles retrofitted with ambient noise-sensitive back-up warning devices



Brigade Electronics bbs-tek white sound alarm

Public Outreach

- **MassDOT is committed to public outreach throughout the duration of construction for the Magazine Beach Pedestrian Bridge.**

- **To submit concerns, request additional information or be added to the Charles River Basin project database please contact:**

  - Stephanie Boundy, Accelerated Bridge Project Public Outreach Coordinator
  - Telephone: (617)973-8049
  - Email: stephanie.boundy@state.ma.us

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For More Information

- www.mass.gov/acceleratedbridges

- **For news and updates check out our website www.mass.gov/massdot, blog at www.mass.gov/blog/transportation or follow us on twitter at www.twitter.com/massdot.**

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